Recently reported data show that expenditures for prescription drugs are rising more rapidly than spending for other healthcare services. A number of studies have attempted to decompose changes in prescription drug expenditures but have been limited by types of data used, pricing metrics, or failure to disaggregate growth into factors related to particular therapies. **OBJECTIVE:** To quantify the contribution of several volume and price factors to prescription drug expenditure growth for seven drug/disease categories, and to measure the impact of new entrants to the market on these factors. **METHODS:** Using medical and drug claims data from two different sources (1994–1997 and 1995–1998), total expenditure growth for each category was disaggregated into three price-related multiplicative factors (inflation, therapeutic mix, new entrant drug prices) and five volume-related multiplicative factors (prevalence, prescriptions per patient for new entrants and for established drugs, and days per prescription for new entrants and for established drugs). The drug categories selected for the analyses represent the highest spending or are among the fastest growing categories reported in other studies. **RESULTS:** We observed three-year increases in expenditures ranging from 43–219% across the seven categories studied. The percentage of growth attributed to all volume factors versus all price factors together ranged from 2.5:1 for hormone replacement therapy to more than 10:1 for gastrointestinal agents and lipid-lowering drugs. These trends may be associated with new scientific understanding and better medical practice. **CONCLUSION:** As health plans and payors assess the appropriateness of spending growth within resource limits, disaggregation of expenditure growth can identify significant components of growth and help to determine the magnitude of the underlying clinical and population drivers.

PDH3

PHARMACEUTICAL PRICE CONTROLS AND POSITIVE DRUG LIST EFFECTS ON TOTAL AND SOCIAL INSURANCE EXPENDITURES

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OBJECTIVE: In Greece, a new pricing system and a positive list for pharmaceuticals were introduced in late 1997 to April 1998. This paper attempts to evaluate their effectiveness on total and social insurance expenditures after one implementation year. **METHODS:** In December 1997, pharmaceutical prices were re-calculated, based on the lowest ex factory price for the same product in EU. Levies on ex factory prices (earmarked social insurance (SI) taxes) were reduced. All drugs were classified in categories of active substances. Those with individual daily treatment cost higher than category averages were excluded from the positive list. Using data from IMS and the National Agency "Pharmetrica" we evaluate: total expenditure growth after reforms, formulary exclusion impact on products and therapeutic classes and trends in SI expenditures and income. **RESULTS:** Price reform led to average unit price reduction of 24%. Volume trends remained initially stable increasing sharply in Q1/1999. Positive list introduction lead to slight volume reduction until 08/1999 followed by increasing value trends. The list had no impact on average unit price. Total market expenditures were reduced by 14% in 1998, albeit surpassing 1997 levels in early 1999. Excluded products showed sales decrease. Effects on therapeutic class value and volume growth varied. SI expenditures were reduced in the short, but not in the long term. SI income lost from tax reduction was replaced by government subsidies. **CONCLUSION:** Price control and drug list effects were short-lived both on total and SI expenditures. Government finally had to subsidise price reduction for individual products. Cost-effectiveness criteria and prescribing habit controls may be more effective in future policy initiatives.

PDH4

TECHNOLOGY ASSESSMENT IN THE US: WHAT DO PAYERS UNDERSTAND AND WHAT INFORMATION DO THEY WANT?

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Over the past decade there has been an enormous expansion in outcomes research directed at influencing prescribing and coverage decisions. However, little is known about what types of information are best understood by decision-makers and what information they would like to have presented to them. **OBJECTIVES:** The purpose of this study was to ascertain (1) the skills of managed care decision-makers and the information that they prefer to see presented to them (2) awareness of guidelines (3) importance of indirect and caregiver costs, and (4) the percentage of products that have undergone a formal pharmacoeconomic or quality of life review in the previous year. **METHODS:** A telephone survey of 41 randomly selected pharmacy and medical directors was conducted to elicit their attitudes towards PE information. **RESULTS:** In terms of rank order the following study designs were preferred by respondents: RCTs, trials in HMO settings, cost of treatment studies, models, observational studies and retrospective chart analyses. The majority of respondents reported that their P&T committees had at least a good understanding of pharmacoeconomic (63.4%) and QoL (58.5%) data. In 1998, 43.9% of products received some form of pharmacoeconomic or QoL review prior to formulary acceptance; however only four respondents were aware of guidelines for the conduct and presentation of pharmacoeconomic studies. 36.6% and 38.8% of respondents were neutral or not concerned with the indirect cost of disease or caregiver burden, respectively. **CONCLUSIONS:** The use of pharmacoeconomic information in MCOs is beginning to show some promise. MCOs feel that pharmacoeconomic and QoL data will

be more important in the future. Although responents reported their knowledge of pharmacoeconomics to be good, a substantial lack of interest in caregiver burden suggests that a large percentage of MCOs are still in a silo model.

PDH5

HEALTH CARE EXPENDITURE IN AN HMO BEFORE AND AFTER AN EXCLUSIVE PHARMACY PARTNERSHIP

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Stadtlanders Pharmacy focuses on the management of high-cost, chronic illnesses by targeting numerous medication-optimizing initiatives towards patients and prescribers. The cost impact of these initiatives has never been measured in a controlled fashion. **PURPOSE:** The purpose of this study is to assess the impact of an exclusive pharmacy provider contract with a large HMO on healthcare expenditures by a third party payor. This analysis will evaluate per member per month (PMPM) medical costs based on claims data prior to and following a National Agreement that mandates exclusive pharmacy services for HIV and transplant patients. **METHODS:** A retrospective analysis of medical claims data was performed for 40 patients from selected plans of a large, nationwide HMO. Time frame for the analysis was 6 months prior to (1/97 to 6/97) and 6 months following (1/98 to 6/98) an exclusive provider relationship with Stadtlanders Pharmacy and the HMO. Inclusion criteria consisted of transplant and HIV1 patients enrolled in the third party plan from 1/97 to 6/98, who received immunosuppressants and antiretrovirals, respectively, from Stadtlanders during the post-agreement time frame. Medical claim submissions during the specified time periods were analyzed to determine mean per-member-per-month (PMPM) values. **RESULTS:** Nineteen transplant and 21 HIV patients were included in the analysis. Mean medical PMPM prior to and following the National agreement was $053 and $911, respectively for transplant patients and $448 and $306, respectively for HIV patients. The mean overall saving in medical costs was approximately $140 PMPM for each disease state following the exclusive contract with Stadtlanders Pharmacy. **CONCLUSION:** This analysis represents potential overall healthcare savings for certain chronic illnesses through an exclusive partnership between a specialty pharmacy and an HMO.

PDH6

ADVANTAGES AND LIMITS OF THE FRENCH HOSPITAL DATABASE (PMSI) ON DESCRIPTION OF HAEMOPHILIA MANAGEMENT AND COSTS

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OBJECTIVE: We assessed the usefulness of the French hospital database (PMSI) implemented in view of a DRG-like prospective payment system for an economic evaluation of the management of haemophiliac patients. **METHODS:** We extracted and analysed data of the French public hospital database on hospitalizations with a principal or secondary diagnosis of haemophilia (type A) for the years 1996–1997. **RESULTS:** A total number of 7000 admissions were found per year. The inpatient admissions concerned haematology and orthopaedic surgery but were scattered over a total number of 328 DRGs, reflecting both the variability of practice patterns and more likely of coding procedures. Almost all of DRGs have less than 1% of the files registered. We identified 3 main ambulatory DRGs but none was specific to haemophilia. The ambulatory DRGs contain more than 50% of the files related to haemophilia. The analysis of the national database does not permit to identify neither the type of therapeutic strategy for haemophilia (prophylactic treatment or on demand treatment) nor the presence of a factor VIII inhibitor. We found differences on the quality of diagnostic coding between the regional university hospitals (UH) and the local hospitals. The mean of diagnostics registered for patients in 1997 is 2.9 diagnostics in UH and 4 in other hospitals. We compared the observed costs of haemophiliac patients with the DRG reimbursement schedule and found variations from plus to minus 40%. This gap is mainly explained by the length of hospitalization. Thus it appeared that the national DRG database is not currently appropriate for assessing the management and costs of treatments for haemophiliac patients, but could well supplement the existing prospective cohort studies.

PDH7

THE IMPACT OF LOCUS OF CONTROL ON COMPLIANCE

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The impact of patient compliance/adherence on disease management is well known. In order to improve compliance with medication regimens health care providers have counted pills, evaluated re-fill patterns, developed electronic devices, used questionnaires to identify problem areas, yet compliance remains a significant barrier to the effectiveness of medication regimens. **OBJECTIVE:**